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It seems fitting at this time that we should say something of the future of the school of agriculture at this University. Ever since the founding of the University the studies pertaining directly to agriculture have been cramped in close and unpleasant quarters in the east end of the Main Building. Class-room work, lectures, laboratory work and technical talks, were all done and made in the same small, dingy room. But has the work of the school been a failure? For an answer we need but to look at the greatly increasing number of students in the agricultural courses each year, and the splendid work done by graduates of this school. Now we have the plans laid for a magnificent building of our own, to be devoted entirely to agriculture. In this building will be class-rooms, laboratories, lecture-rooms and every necessity for the carrying on of our work in the most approved way. Now if we have been so successful in the past with such poor equipments, what will the future

bring? We think we can congratulate the young men of Ohio upon having such a good opportunity open to them, and we feel positive that many will make use of this opportunity to help them in their future work. We hope that this will reach many who are undecided, or "on the fence," and that we may see them here ready for work next fall.

ART in agriculture is coming to be more and more noticeable every day. With the advent of new methods, improved implements, and a wider knowledge of the field, the agriculturist is rising higher and higher in the field of useful and ornamental art as the years go by. We may say that sharp competition is no small factor in this progressive movement. Take, for example, the manner in which certain products are prepared for the open market. The improvement in the condition of certain dairy products and fruits on market in the last few years is truly wonderful. The reason, of course, is that people always buy that article which is put up in the most tasty and attractive style, and are willing to pay a little more for it. With this change comes a wholesome effect upon the article itself, and disease is much less disseminated through food at the present time than formerly. Greater precautions are taken now than ever before in preventing the spread of contagious diseases in this manner, and with the increase in the size of the cities and the greater liability to ill-health, these precautions can not be observed too carefully. Thus the agriculturist, to be successful, must keep right up to date in his reading and methods.

The board of editors of the STUDENT, by reason of the success of the past, wish to go into the thing a little deeper next year and get out a publication worthy, not only of the Department of Agriculture, but of the Ohio State University.

TOWNSHEND HALL.

The New Agricultural Building at the Ohio State University.

The authorities of the Ohio State University have ordered the erection of a building as headquarters for the College of Agriculture at a cost of \$75,000. Plans for this building are being prepared by Peters, Burns & Pretzinger, Dayton, Ohio. A preliminary sketch for this building was published in our January issue. This building is to contain the Departments of Agriculture and Agricultural Chemistry. In addition to the work in Agricultural Chemistry, there will be provided a laboratory for work in physical properties of soils, drainage, irrigation, and cultivation, for work in the draft and manipulation of farm implements and for the study of cereals and grasses. There will be a complete provision for dairying, including butter, cheese and pasteurizing rooms. On the ground or basement floor will be a room where the judging of live stock will be taught. Two museum rooms will be provided, one for agricultural implements and devices and one for agricultural products. In addition, the building will contain the necessary office, class and assembly rooms.

It is expected to make this one of the finest buildings which has ever been erected for this purpose in this country, and it is to be known as Townshend Hall in honor of the late Dr. Norton S. Townshend, who was at the head of the Department of Agriculture for the first twenty years of the University's history.

THE NEW DEPARTMENT

Of Domestic Science—The Faculty of the College of Agriculture Adopts New Courses of Instruction.

The Board of Trustees at its recent meeting created a Department of Do-

mestic Science and attached the Department to the College of Agriculture. Mrs. Nellie S. Kedzie of the Kansas Agricultural College, Manhattan, Kas., has been elected to take charge of this Department. The title of the College of Agriculture has, also, been changed to that of the College of Agriculture and Domestic Science.

The faculty of the College of Agriculture has adopted two courses in Domestic Science which will be offered next year, viz.: a four-year course and a two-year course. The first year of the four-year course consists of chemistry 5 hours per week through the year, botany 5 hours, zoology 3 hours, and rhetoric 2 hours. In the second year, the student has Domestic Science 4 hours, chemistry 5 hours, French or German 4 hours, and either a course in drawing, clay modeling, carpentry and wood carving 5 hours, or a course in horticulture and dairying 5 hours. In the third year is given Domestic Science 4 hours and French or German 4 hours following work of previous year. Physiology and geology each occupy 5 hours during the first and second terms, while in the third term they are replaced by entomology and drawing, the latter consisting of a course in house designing. The required work of the fourth year is Domestic Science 4 hours and floriculture 2 hours per week through the year. In addition, the student may elect 10 hours per week chosen from any of the courses given in any College of the University upon which the student is qualified to enter, except in the College of Law.

It will thus be seen that the course in Domestic Science is a course in language and science with the application of the latter to the practical affairs of women.

The short course in Domestic Science is a two-year course. In the first year, chemistry is given 5 hours per week through the year. Mathematics and physiology, each 5 hours, are taught

during the first and second terms, while in the third term they are replaced by botany and physical geography. In the second year, two courses in Domestic Science, each 4 hours per week, are required, and in addition, the student may elect 7 hours per week from specified courses in the four-year course.

Young women in this course, as in the other courses of the University hereafter, will have physical training and lectures in hygiene in place of the cadet service for the young men.

The requirements for admission to the four-year course in Domestic Science are (besides the common branches,) United States history, physical geography, English composition, algebra, plane geometry, physics, botany, and either civil government or general history.

The requirements for admission to the short course are the common branches and United States history. The completion of the first year of the short course enables the student to enter the first year of the four-year course.

This course of study is provided for young women who wish to fit themselves for the serious affairs of life, and, at the same time, it gives to women that training of mind and hand which will enable them with true womanly dignity and grace, to perform those obligations which present social conditions demand.

The Practical Utility of Dairy Records

In no line of industry is regularity or systematic work more essential or better repaid than in dairying. To guide rational treatment and insure success the dairyman should become familiar with the characteristics peculiar to each individual animal in the herd. Her likes and dislikes, and especially her dairy capacity, should be subjects for investigation and study and not guess work. To arrive at anything like a rational decision on

these matters, the use of a systematic, well-kept record is essential. And yet how many there are who keep no record because it takes too much time. True it takes some time and expense, but a well-kept record will repay the dairyman tenfold. What would we think of a merchant or tradesman who did not keep a set of books because it took too much time or cost too much. He would not know whether he was running his business at a profit or loss. And it is equally true of the dairyman.

We know that dairy farming properly managed, in a suitable locality, is one of the most lucrative branches of agriculture. And yet good judges assert that one-third of the cows in this country are not paying expenses; and about one-third never fail to yield an annual profit. The reason for this is obvious. Many farmers are keeping cows which are unsuitable for dairy purposes. They keep no record of what the cow is giving in return for her feed and care; and consequently they have no way of determining whether the cow is paying or not.

As a matter of ordinary business prudence every dairyman should keep a record which would show the quantity, quality and cost of production, of the milk from each individual member of the herd. From these facts and figures, he should set a standard for a satisfactory cow; and maintain that standard, by systematically weeding out his herd, and disposing of those animals which fail to come up to that standard.

The only sure and safe way of determining the individual merits of a dairy cow is by her record of the quantity and quality of milk produced, and this should be of paramount importance to the dairyman who is building up a herd. For "like begets like," and if only those animals are kept and bred which the books show to have a record in production as well as breeding, he has laid the foundation for the up-building of a herd

which will undoubtedly repay him for all his painstaking work.

The extent of the record kept should be determined in each case by the extent of the business and the circumstances surrounding it.

The system of records kept in the O. S. U. dairy is simple and yet complete. When a cow is milked the milk is taken directly to the weighing room and weighed on a Chatilline spring balance, which is graduated to tenths of a pound. This balance has two index fingers, one of which may be set to take out pail tare. To take advantage of this all pails used for milking should weigh the same. After weighing the amount which each cow gives it is registered on a chart which hangs on the wall to the right hand side of the balance. This chart or individual milk record is ruled both ways, with printed headings. At the top of the vertical columns are printed consecutive numbers ranging from one to thirty-one to correspond to the days of the month. At the head of each longitudinal column on the lefthand side is written the name or number of a cow. On the righthand side of the sheet are vertical columns for registering the dates of feeding and birth of calves. There are two of these charts, one for morning and one for evening milking. At the end of the month these charts are perforated and inserted in a portfolio. A glance at these charts will show not only which cows are producing the largest yield, but a sudden shrinkage which would otherwise pass unnoticed may be detected at once, and the cause investigated and removed.

A feed record is also kept which shows the amount of each kind of feed consumed for each day. These are then copied into a book in which suitable "forms" have been made out for each month. These forms are so constructed as to show the amount of each kind of food eaten by the herd

for each day in the month, and the amount of milk produced. From these records the effects of any change of feed may be noticed at once, and the profit or loss from such change readily calculated. From these figures monthly summaries are made, showing the amount and cost of each kind of feed consumed for the month. Also the amount of milk sold, price received, and the net gain or loss for the month. From these monthly summaries a yearly summary is made, showing the amount and cost of food and labor, and the amount of milk produced, price of same and total gain or loss for the year.

The quality of the milk being a very important factor in determining the value of a cow for dairy purposes, a test for butter fat should be made as often as once a month and the results registered in a book kept for that purpose. This furnishes us a complete record of the quantity and quality of milk produced, the amount of feed consumed, and the cost of care of each animal in the herd for each day in the year. From this data we may determine accurately the profit or loss from each cow, and hence her merits or demerits as a dairy type.

M. IMES.

The Coniferæ of Ohio.

BY I. T. R. HILL.

In this work the author gives a general outline of the Pine family, stating its climatic range and distribution, values and uses of the timber, with a comprehensive description of each of the eleven species represented in Ohio, including uses, appearance, color, grain and mechanical properties of the wood and the part of the plant used in medicine.

Each description is accompanied by a plate showing a photograph of the leaves and fruit of that species. Besides this the author has arranged a set of tables showing the results of

experiment upon the different woods under consideration. One table represents the results obtained by drying and soaking, and shows that the White Pine loses weight less rapidly in drying than any other, and absorbs water less rapidly in soaking, while the Hemlock loses weight most rapidly in drying and absorbs water with greater rapidity than any other in soaking. It is for this reason that White Pine is so much more desired for building purposes than Hemlock, as it does not shrink and swell with changes in the weather.

A table representing experiments upon the strength of wood shows the Norway Pine and Larch to withstand the greatest strain, White Pine and Hemlock the least of any tested.

Following each description are given the specific gravity, weight per cubic foot, fuel value, hardness, etc., of the wood, making in all an interesting and valuable comparison of the species.

I. T. Reynolds Hill.



I. T. Reynolds Hill was born at Berlin Heights, Erie county, Ohio, on the twenty-fourth day of May, 1873. After a common school education he took a course in the Berlin Heights

high school, from which he graduated in 1890. At this time he considered the many plans for the future which open up to every young man, and arrived at the happy decision of taking a college course. Therefore he entered the Ohio State University in the fall of 1891. After spending two years at the University in the course in agriculture, the following year was spent at home, devoting the winter months to a course in the Sandusky Business College. He returned to the University, however, in the fall of 1894, to pursue his studies in agriculture. In 1895 he decided to turn his attention to the study of horticulture and forestry. Mr. Hill's graduating thesis is prepared upon the subject of the Coniferæ of Ohio. He graduates this year with the degree of B. Sc. (H. & F.). During his college course Mr. Hill has always held a high place in his classes and in the esteem of his fellow-students. He is a public spirited young man and we predict for him a bright future.

The Action of Antiseptics on Digestion.

It has been learned that certain articles can be put in food products which will act as a preservative and the majority of consumers will not be able to detect it.

There are so many instances where the food is of so perishable a character that without some preservative it would only be of service for short time. The usage of antiseptics has become very general and can be found in almost all foods of commerce. Numerous attempts, both by legislation and by enforcement of the food laws, have been made to stop this ruinous practice, and it has been evident that as the use of one antiseptic is checked new ones come in and take their place.

In the past years Saccharin, Borax, Salicylic Acid and Calcium Sulphite have been the most common preser-

vatives and it was shown that all these had an injurious effect upon the health of the consumer, especially where used in large quantities.

The new preservatives which are now in general favor are Benzoic Acid and Formalin and the action of these was determined by the writer in preparing his thesis. The method employed for the salivary digestion was as follows:

1 gram starch was mixed with 10 c. c. of water in a test tube and boiled; 5 c. c. more of water was added and cooled to 40° C., then added 5 c. c. saliva, shook mixture well, placed on a water bath and kept at a constant temperature of 40° C. for the time required; then heated to boiling point so as to stop digestion; then diluted the mixture with water to 100 c. c. and tested for grape sugar with Fehling solution.

At each step parallel tests were made with one gram starch containing a certain amount of preservative. Formalin is the strongest of the two antiseptics and therefore has the most injurious effect on digestion. Benzoic Acid has a strong antiseptic effect but its action is not as decisive as with Formalin. Where the Benzoic Acid was used in proportion of 1 part to 210 parts food the digestion was entirely checked for the 1 and 5 minute tests, but in the 15 minute and 1 hour tests we have only slight evidence of grape sugar.

Where we used 1 part Benzoic to 420 parts food the interference in the 1 and 5 minute tests was marked, and in the test that digested for 1 hour the per cent. grape sugar was less than with the control, which contained no preservative. Where 1 part Benzoic to 1680 parts food was used the antiseptic had no effect, as the per cent. grape sugar was greater than in the control.

Experiments were also made with the peptic and pancreatic digestion, and in neither case was there evidence

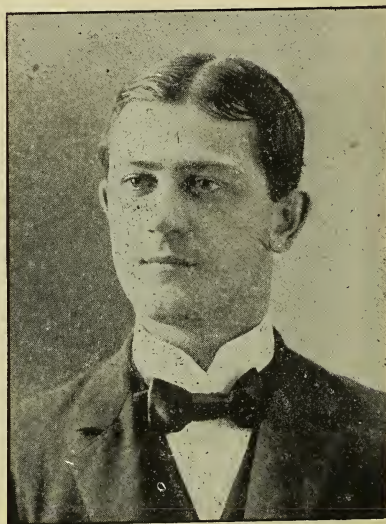
of a hindrance; with the peptic it assisted where 1 part Benzoic was used to 3360 parts of the starch, as it digested in 2 hours, whilst it required 3 hours for the control. With the Pancreatin all digested in 8 hours.

The effects of Formalin are not so great in the proportion of 1 to 210 as with the Benzoic, but in every experiment, even where 1 part to 3360 parts food, was the per cent. of sugar less than where no Formalin was used.

In both the Pancreatic and Peptic the interference was very noticeable, thus showing that internally it should be used very sparingly, as it will not only interfere with the secretion and action of the different juices but will attack the membranes of the digestive tract.

M. M. RARICK.

Murray M. Rarick.



Murray M. Rarick was born June 19, 1873, at Glenford, Perry county, Ohio.

When he was ten years old his parents moved to Thornville, Ohio, where he has since resided. Young Murray's boyhood days were spent in attendance at the Thornville public

schools and working on the farm, his father owning a handsome farm near Thornville.

Mr. Rarick graduated from the Thornville High School in 1892 in a class of eleven, and in the fall of the same year he entered the O. S. U. in the Agricultural course.

His four years at the University have been exceptionally pleasantly spent. Mr. Rarick has been an active member of Horton and Townshend societies, having held various positions in each. He has also been a member of the 'Varsity band for two years.

Since his entrance to the University he has been an active and earnest member of the Y. M. C. A.

When the AGRICULTURAL STUDENT was founded Mr. Rarick was selected as Circulation Manager and has filled this position efficiently for two years. He was one of the originators of the Agricultural Student Union.

He is Ivy Orator for the Senior Class at the coming commencement. His abilities run in the line of science, chemistry, physiology and zoology being especially interesting to him.

Mr. Rarick thinks his entrance to the O. S. U. one of the great days of his life and is one of the most earnest exponents for agricultural education.

COMPARATIVE FEEDING VALUE

Of Wheat for Pigs, As Determined by Actual Digestion and Feeding Experiments.

The object of this thesis is to determine as near as possible, in a short time, the actual value of wheat as a food for fattening pigs.

This work was commenced early in 1894. As wheat had suddenly become very low, many were feeding it to their pigs and making many statements about its value as a food. Some of these statements seemed unreasonable. We decided to make experi-

ments so as to compare its actual feeding value with that of corn.

Accordingly we selected nine high grade Poland China pigs and divided them into three lots as near alike as we could. Fed one lot on whole corn, one lot on whole wheat, and the other on the two grains mixed equally by weight. The experiment showed that wheat made a little better gain than corn, but the increase was slight. The mixed lot made the largest gain. This experiment has tables to show results in the thesis.

The next experiment was conducted the next winter and was to determine the value of grinding and soaking; also compared with corn.

There was a lot of sixteen grade Poland China pigs chosen from a lot of eighteen; they were divided into four lots of four pigs each. One lot was fed on dry whole wheat, another on whole soaked wheat, another on ground wheat mixed with water and the other was fed on dry whole corn. This was continued for fifteen weeks.

The result was that the ground wheat gave the best results, dry whole wheat was next, then came the whole soaked wheat, then dry corn. The difference was small in every case. It showed that if wheat was going to be fed it paid to grind it and mix it with water. The difference between the cost of wheat and corn is greater than is the difference of their feeding value. The next experiment was on feeding corn with other foods.

Sixteen pigs were selected and divided as in the second. One lot was fed whole dry corn all they would eat, another fed one-fourth shorts and the other three-fourths whole corn, another one-fourth ground wheat mixed with water and three-fourths whole dry corn, and the other lot fed on one-fourth ground corn and three-fourths whole corn.

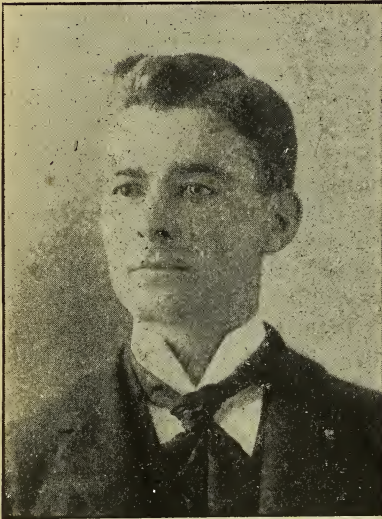
They all received three-fourths dry corn while three lots had the other fourth ground and mixed with water.

The result of this experiment did not show much difference; the lot that had shorts did a little the better, ground wheat was second and ground corn third. All dry corn made the least gain, but there was only a few pounds difference.

The other experiments are digestion experiments. Two pigs were used for this purpose. They were put in boxes so that the fæces could be saved, fed for five days, all the excrements saved and a portion dried and analyzed. The digestibility was determined from this. But it will be impossible to give much of an outline in so brief an article as I have room for here.

FRANK RUHLEN.

•Frank Ruhlen.



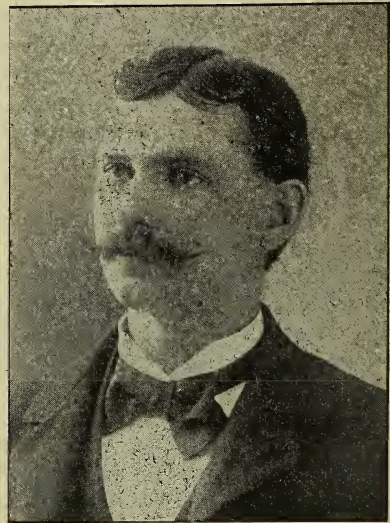
The subject of this sketch was born near New California, Union county, Ohio, February 3, 1873. As a boy he worked on the farm during the summer and attended the district school during the winter. After completing the time-honored common school education, he entered the High school at his native place and received his diploma in 1891. For one year after this event he stayed at home and

worked on the farm, and in the fall of 1892 he entered the Ohio State University in the agricultural course.

During his college career he has applied himself closely and acquitted himself creditably in all of his classes.

For some time he has had charge of the swine department of the University farm, and has superintended all of the feeding experiments in that department. He is a wide-awake young man and will succeed if industry counts for anything in the race.

Philip L. Pfarr.



Philip L. Pfarr was born March 3d, 1870, in Meigs county, Ohio. His early life was spent at home working on the farm. During the winter he attended school but was not able to attend regularly. He says that for this reason his school days were always a dread to him. In the fall of 1891, seeing the need of a higher education, he came to the Ohio State University and entered the short course in agriculture. His preparation being rather poor, he never expected to finish the course; but by diligent application and energetic work he has completed not only the short course, but also the long course

in agriculture, with much credit to himself.

Mr. Pfarr deserves greater credit from the fact that throughout the entire college course he has called on no one to aid him financially. He has always paid his own way. He has always been very earnest and diligent and wide awake in all that he has undertaken and the least we can say for him is that his college course has certainly been a success.

Mr. Pfarr was one of the first members of the Townshend society, one of the most promising organizations of the University, and was for a time its president.

He has always been much interested in agricultural topics and has written not a little for many papers, both agricultural papers and newspapers. Of what we have seen of Mr. Pfarr during his college career we cannot but see in his future many bright stars and brilliant achievements, and all we need say to him is, "Do as you have done and success will crown your efforts."

MR. PFARR has for his graduating thesis an investigation of the draft of farm implements. The question of the difference in the draft of wide and narrow tired wagons has been much discussed.

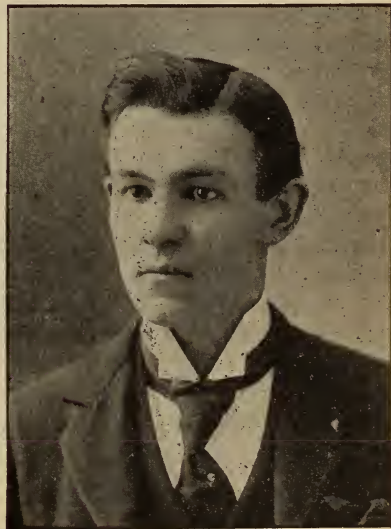
In his thesis work six tests were made, each on a different surface soil or road as follows: Macadamized road, clay road, corn stubble, wheat stubble, cultivated corn stubble, and plowed ground. The tests were made in the fall of the year when the soil was dry. Each test was made on a one hundred yard stretch, and by driving in opposite directions an average was struck. In the wagon tests the wide tire results were the best in every case except on the clay road. In this case the cause of greater draft was probably due to the great number of cobble stones in the road. The wide tire would, of course, strike more

of these than the narrow tire, and thus cause greater draft.

A test was made with load on hind end of wagon vs. load on front end of wagon, and resulted in the greatest draft when load was in hind end of wagon.

Brick pavement and asphalt were tried. The asphalt had the greater draft, but the test was made in warm weather when the asphalt is rather soft and elastic. The plow tests were made with the new Secretary plow, which has a subsoiler attached. This draft proved 200 lbs. less than the combined draft of a plow and subsoiler used separately.

Delbert A. Crowner.



Delbert A. Crowner is a native of New York. He was born March 4, 1872, at Wellsville, Allegheny Co. His boyhood days were spent as those of most boys whose lot is cast in rural life, in going to school during the winter and working on the farm during the spring and summer. In 1890, upon the death of his father, he took charge of the farm himself. During the winter of 1890-91 he graduated from the Wellsville high school and

received a diploma from the Regents University of the state of New York. By this diploma he received credit for all of the studies generally taught in an academy. In April, 1891, he went to Tennessee, where he remained for eleven months. While there he was engaged in weighing coal.

On March 27, 1892, Mr. Crouner entered the Ohio State University as a preparatory student, and fitted himself for the pursuance of his studies in agriculture. In the fall of 1892 he entered the freshman year of the long course in agriculture. Mr. Crouner has always been an enthusiastic dairyman, and has made the study of the dairy industry his specialty. Not only has he been actively engaged in theorizing but was for some time the foreman in the university dairy with full control of the operations of that department.

Last year he was honored by being appointed one of the lecturers for the Farmers' Institutes of Ohio, and in this work he took much interest and was very successful.

Judging from his good business traits and progressive earnestness as a student we can say with confidence that his future will be bright and prosperous.

The Relative Feeding Value of the Corn Plant at Different Stages of Ripeness—Abstract of Thesis.

To find the relative feeding value of the corn plant at different stages of ripeness, or to find out how to treat a piece of growing corn to get the greatest possible value out of it for the production of butter fat, three plats of corn were cut at different stages of ripeness. For the experiment there were somewhat over one and one-half acres planted to Hesse's white corn, a moderately late matur-

ing variety of white corn. The plat chosen was a wheat stubble. Clover had been sown but did not get a good catch. The corn was planted in drills 3 feet 8 inches apart, dropping one to three grains each twenty inches of row. It was cultivated shallow. At the time for cutting the first plat there were sixty-two rows. One row was cut off on each side. The ends of these remaining sixty-two rows were cut off so that each row would be 237 feet long. Twenty rows would represent an area of four-tenths of an acre.

These rows were divided through the middle by stretching binding twine through the corn at the middle of the rows. This was done so that the piece might be cut up into shock rows of a known area, so that in case of trouble or any irregularity in the experiment we would know where we were.

The corn was planted with the experiment in view; therefore we tried to make the conditions uniform for the whole plat, the time of cutting being different, of course, for the three different plats. That any non-conformity which might exist would not enter into the results of the experiment, the plat was divided into shock rows of two rows each. The first two rows were cut early, the next two were cut two weeks later, and the third two rows were cut four weeks later, and so on through the whole plat. The corn was hauled to the barn and cut up with a Tornado feed cutter. About one-half of the area was hauled to the barn as needed in the feeding experiment. The remaining one-half was hauled and stored in the barn after the first half was fed out, it being cut up when needed.

For the feeding experiment, twelve cows were chosen from the University's herd of over thirty. Care was taken to select cows which were in about the same stage of lactation.

In order to get at the producing

powers of each of these cows when fed on corn fodder, they were fed for two weeks on corn fodder cut for husking. Besides the corn fodder, the cows were fed on a minimum amount of grain feed—four pounds each day.

In both the trial and the regular experiment, each cow received all the corn fodder she could eat. We made it a rule to feed them enough so that they would eat nine-tenths of the corn fodder, which is, I believe, pretty close feeding.

They were fed a small amount of grain feed and no other food, so that more of the results might be from the difference in the corn fodder.

The cows were weighed November 16, 17 and 18. The first of the feeding began on the afternoon of the 17th and is put down as feed for the morning of the 18th to correspond with the first milking after the first feed. Throughout the trial and the experiment the cows were weighed three times each week, once the day before the last day of the week, once the last day of the week, and once on the first day of the week. The average of these three weighings was taken as the weight for that week and the loss or gain in live weight for any week was obtained by getting the difference between the weights of that week and the week preceding.

Each cow's milk was carefully weighed and record made on forms provided. Each cow's milk was sampled with a Scovell Milk Sampler and put in a jar in which was a corrosive sublimate mixture which kept the milk in good condition for analysis with a Babcock milk tester. From the milk records and the per cents. of butter fat we get our figures from which to compute the pounds of butter fat produced.

The following table is a summary of the feeding record for each lot. The lots are designated as early,

medium and late. These names signify the degree of ripeness of the fodder that the respective lots received:

Lot.	Early.	Medium.	Late.
Corn fodder fed....	2110	2583	2847
Corn fodder left....	259.2	305.5	310.1
Corn fodder eaten...	1850.8	2277.5	2536.9
Percent. eaten.....	87.7	88.	89.1
Grain feed eaten...	288.	328.	322.
Total food eaten....	2138.8	2605.5	2858.9
Days fed.....	17.5	20.5	20.4

The above table shows that the lot fed on the late corn fodder had more pounds fed to them; medium next, and late least. It might be said that if the same ratio would hold out, one acre of the early cut corn fodder with the above amount of grain feed would keep one cow 131½ days. The medium 153¾ days, and the late 151¼ days.

The following table has the products of the three lots and represents the amount each lot produced when fed its four-tenths of an acre of corn fodder and the grain feed:

Lot.	Early.	Medium.	Late.
Milk, pounds.....	1581.3	1722.8	1659.5
Percent. of butter fat	3.64	4.17	4.06
Butter fat, pounds..	57.56	71.91	67.30
Lbs. of food eaten to produce one lb. of butter fat	37.99	36.34	42.68
Gain in live weights (lb.)	104.	89.	71.

Valuing the butter fat at twenty-five cents per pound, the gain in live weight at four cents per pound, we get the following table for one acre of corn fodder:

Lot.	Early.	Medium.	Late.
Butter fat, value, dollars	35.97	44.94	42.06
Gain in live weight, dollars	10.40	8.92	7.12
Total product, dollars	46.37	53.86	49.18

From the above table one can see that a given area of corn fodder cut when the kernels of the corn had begun to dent, the husks all dead and the leaves begun to turn, produced more butter fat than an equal area when cut in roasting ear stage or when ripe.

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